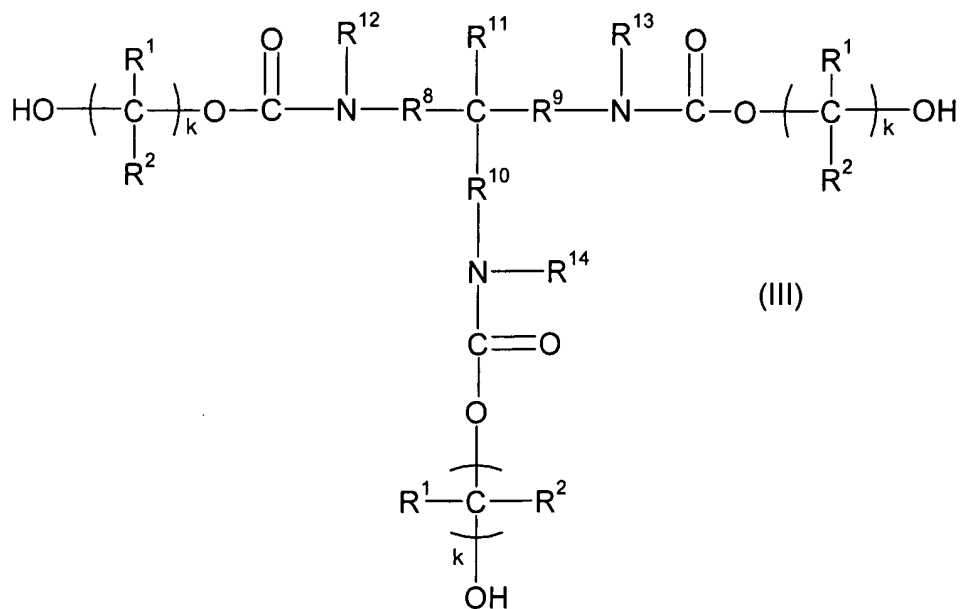
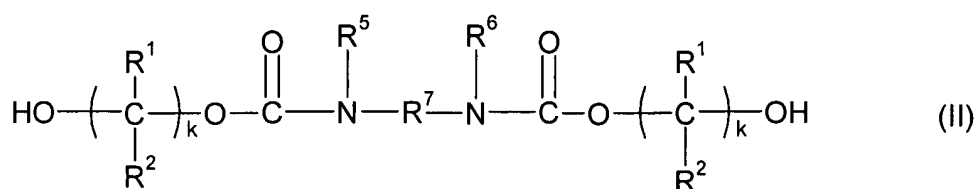
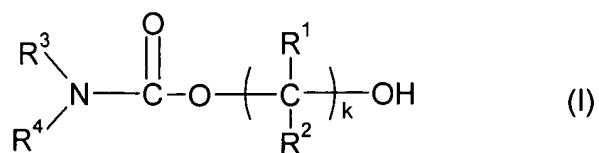
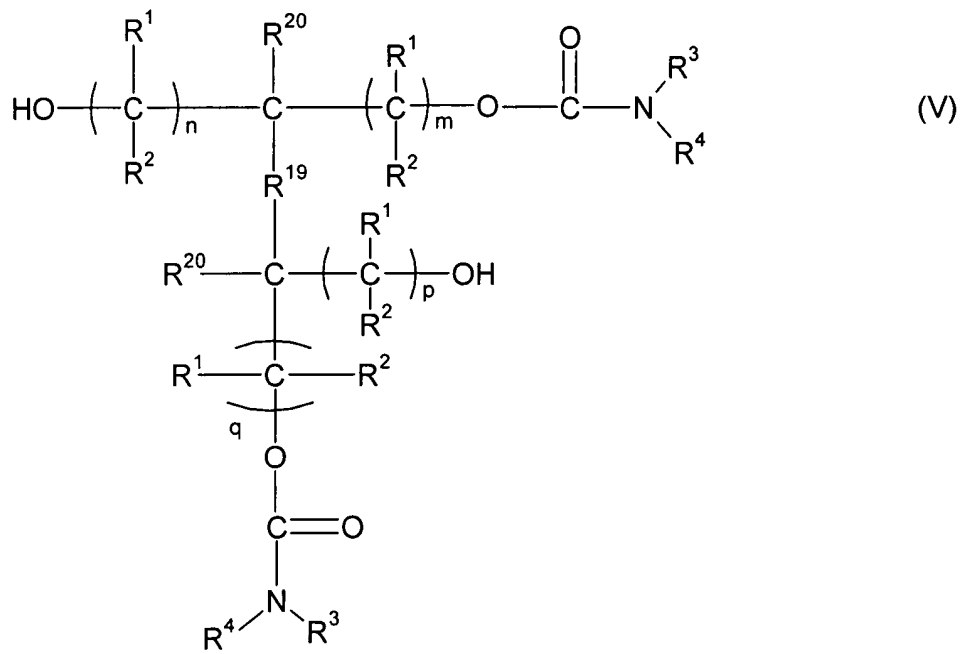
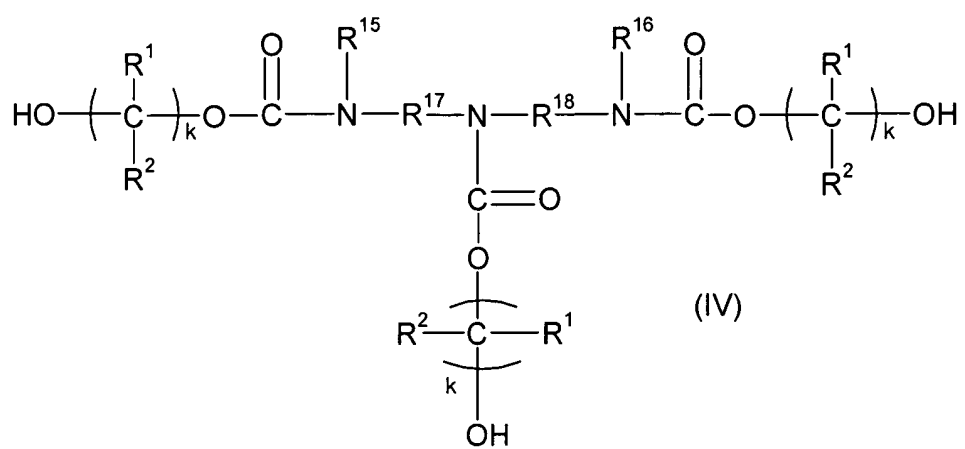


AMENDMENTS TO THE CLAIMS

1. **(Original)** Process for producing urethane (meth)acrylates which comprises the reaction of (a) at least one hydroxyalkyl carbamate of formula (I), (II), (III), (IV), (V), (VI) or (VII)







- alkenyl, optionally substituted by hydroxy; halogen; aryl and/or aryl substituted by hydroxy, halogen or alkyl; and optionally containing from 1 to 8 ether bridges,
- aryl, optionally substituted by hydroxy; halogen; alkyl; alkyl substituted by hydroxy, halogen and/or aryl; and/or alkyl containing from 1 to 8 ether bridges,

R³ is an alkyl, optionally substituted by hydroxy, tertiary amine and/or aryl, and optionally containing from 1 to 20 ether bridges and/or from 1 to 3 tertiary amine bridges,

R⁴, R⁵, R⁶, R¹², R¹³, R¹⁴, R¹⁵ and R¹⁶ are, independently, chosen from the group of

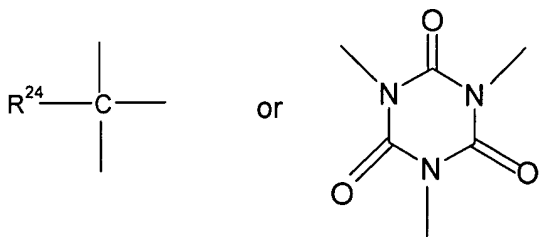
- hydrogen, and
- alkyl, optionally substituted by hydroxy, tertiary amine and/or aryl, and optionally containing from 1 to 8 ether bridges and/or from 1 to 3 tertiary amine bridges,
- with the proviso that, respectively, R³ and R⁴, R⁵ and R⁶, R¹² and/or R¹³ and/or R¹⁴, R¹⁵ and R¹⁶ may be linked together in order to form a ring,

R⁷, R⁸, R⁹, R¹⁰, R¹⁷ and R¹⁸ are, independently, chosen from alkylene, alkenylene, arylene and aralkylene chains which may contain from 1 to 8 ether bridges and/or from 1 to 3 tertiary amine bridges,

R¹¹ is hydrogen or alkyl;

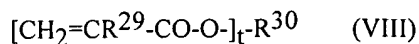
R¹⁹, R²¹, R²², R²³, R²⁵, R²⁶, R²⁷ and R²⁸, are, independently, chosen from alkylene, alkenylene, arylene and aralkylene chains which may contain from 1 to 20 ether bridges, from 1 to 4 tertiary amine bridges, from 1 to 4 -CO- bridges and/or from 1 to 4 -O-CO- bridges;

A is



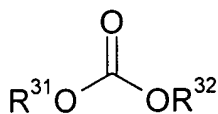
wherein R²⁴ is hydrogen or alkyl;

(b) at least an (meth)acrylate of formula (VIII)

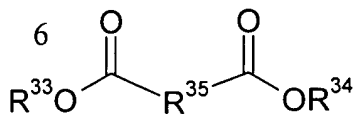


wherein R²⁹ is hydrogen or methyl, and R³⁰ represents an alkyl, optionally substituted by hydroxy, which may contain from 1 to 10 ether bridges group, from 1 to 10 -O-CO-O- bridges and/or from 1 to 10 -O-CO- bridges; t ≥ 1 ; and

(c) at least one carbonate of formula (IX) and/or a diester of formula (X)



(IX)

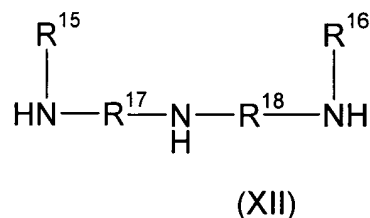


(X)

each R³¹, each R³², each R³³, each R³⁴ is, independently, chosen from the group of alkyl and aryl, R³⁵ is alkylene, alkenylene or arylene; and

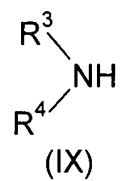
(d) optionally, at least one polyol different from the hydroxyalkyl carbamates (a);

in the presence of at least one transesterification catalyst.

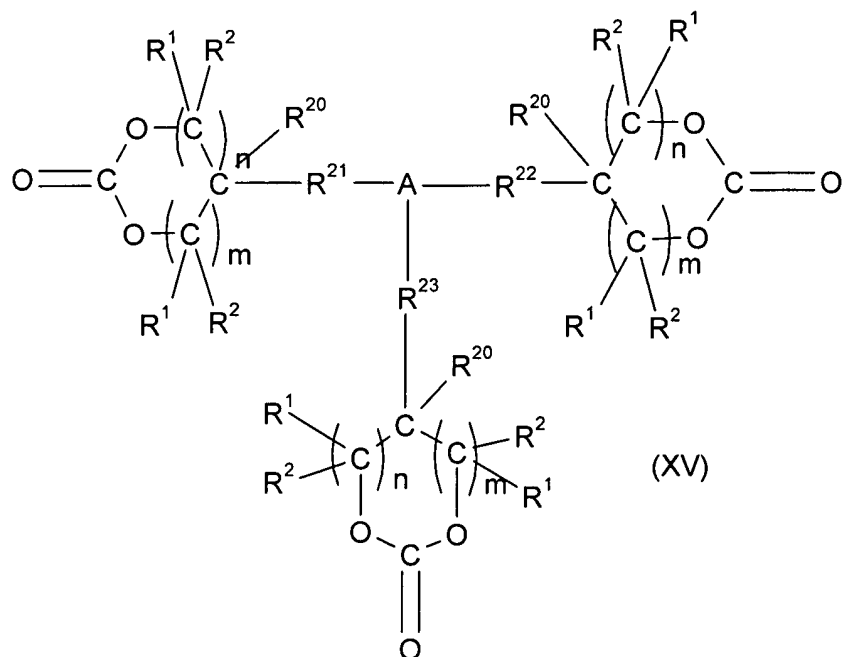
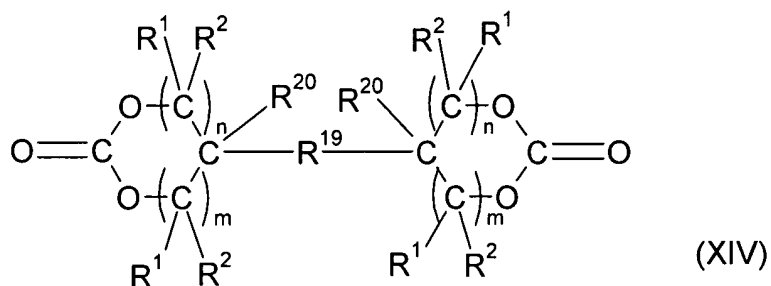
$$\begin{array}{ccc}
 \begin{array}{c} \text{R}^3 \\ \diagdown \\ \text{NH} \\ \diagup \\ \text{R}^4 \end{array} & \begin{array}{c} \text{R}^5 \quad \text{R}^6 \\ | \quad | \\ \text{HN} - \text{R}^7 - \text{NH} \end{array} & \begin{array}{c} \text{R}^{12} \quad \text{R}^{11} \quad \text{R}^{13} \\ | \quad | \quad | \\ \text{HN} - \text{R}^8 - \text{C} - \text{R}^9 - \text{NH} \\ | \\ \text{R}^{10} \\ | \\ \text{HN} - \text{R}^{14} \end{array} \\
 \text{(IX)} & \text{(X)} & \text{(XI)}
 \end{array}$$

$$\begin{array}{c} \text{O} \\ \diagup \quad \diagdown \\ \text{C} \quad \text{O} \\ \diagdown \quad \diagup \\ \text{O} \end{array} \text{---} \text{C} \begin{array}{l} \diagup \text{R}^1 \\ \diagdown \text{R}^2 \end{array} \quad (\text{XIII})$$

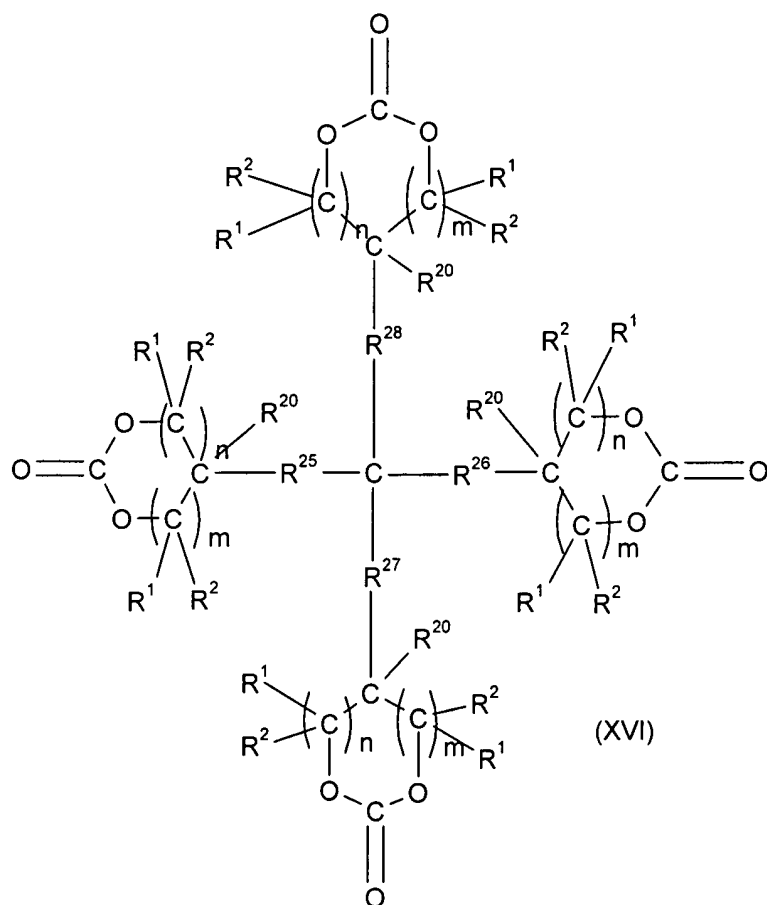
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3.(Original) The process according to claim 1, wherein the hydroxyalkyl carbamates of formula (V), (VI) and (VII) are obtained by reacting an amine of formula (IX)



wherein R³ and R⁴ are defined as in claim 1, with, respectively, a cyclic carbonate of formula (XIV), (XV) and (XVI)





wherein R^1 , R^2 , R^{19} , R^{20} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} , R^{26} , R^{27} , R^{28} , A , n and m are defined as in claim 1.

4.(**Currently Amended**) The process according to claim 1, ~~any of claims 1 to 3~~, wherein the transesterification catalyst is selected from organotitanates, organozirconates and organotin catalysts.

5.(**Original**) The process according to 4, wherein the transesterification catalyst is an alkyltitanate wherein each alkyl, independently, comprises from 2 to 8 carbon atoms or an alkylzirconate wherein each alkyl, independently, comprises from 2 to 8 carbon atoms or a zirconium 1,3-diketone chelate or a mixture thereof.

6.(**Currently Amended**) The process according to claim 1, ~~any of claims 1 to 5~~, wherein the transesterification reaction is conducted in the presence of at least one polymerization inhibitor.

7.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 6~~, wherein the temperature during the transesterification reaction is at most 120°C.

8. (Currently Amended) The process according to claim 1, ~~any of claims 1 to 7~~, wherein the weight ratio of catalyst to the generated urethane (meth)acrylate is from 0.001 to 0.2.

9.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 8~~, wherein $k=2$ or 3 and $n+m$, $p+q$, $r+s$, $v+w = 1$.

10.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 9~~, wherein in formula (I), (II), (III) and (IV) one of the R^1 substituents is chosen from the group of hydrogen, methyl, ethyl, hydroxymethyl, chloromethyl, allyloxymethyl, the R^2 substituent present on the same substituent as said R^1 substituent is chosen from hydrogen and methyl, and all other R^1 and R^2 substituents are hydrogen.

11.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 9~~, wherein in formula (V), (VI) and (VII) each R^1 , each R^2 and each R^{20} is hydrogen.

12.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 11~~, wherein in formula (I), (V), (VI) and (VII) and (IX) R^4 is hydrogen and R^3 is an alkyl comprising at least 3 carbon atoms and substituted by at least one hydroxy and optionally containing one or two ether bridges.

13.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 12~~, wherein in formula (VIII) t is 1 and wherein R^{30} is an alkyl comprising from 1 to 6 carbon atoms or an alkyl substituted by at least one hydroxy group, and which may contain from 1 to 10 ether bridges group, from 1 to 10 -O-CO-O- bridges or from 1 to 10 -O-CO- bridges.

14.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 13~~, wherein in the carbonates of formula (IX) R^{31} and R^{32} are chosen from the group of alkyl comprising from 1 to 4 carbon atoms and from phenyl.

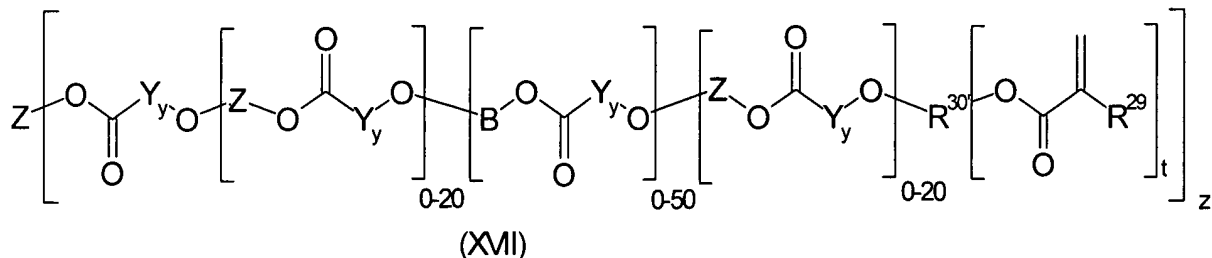
15.(Currently Amended) The process according to claim 1, ~~any of claims 1 to 14~~, wherein in the diesters of formula (X) R^{33} and R^{34} are chosen from the group of alkyl comprising from 1 to 6 carbon atoms and from phenyl, and wherein R^{35} is an alkylene or alkenylene comprising from 1 to 10 carbon atoms or phenylene

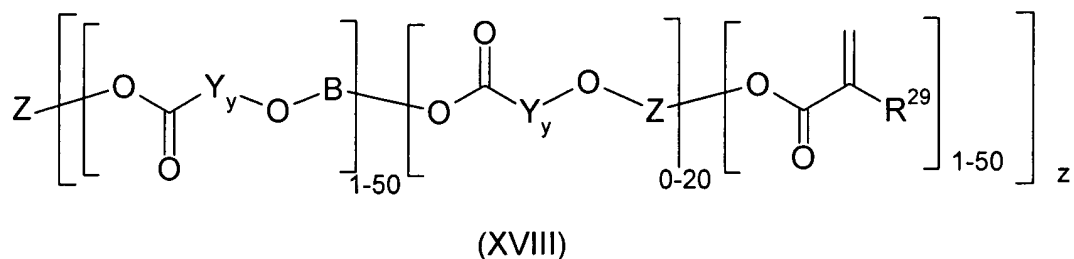
B-(OH)_x wherein x is an integer from 1 to 6 and B represents an alkyl or alkenyl optionally containing from 1 to 100 ether bridges, -CO-O- bridges, -CO- bridges and/or -O-CO-O- bridges and/or containing one or more -COOH, -SO₃H and/or -PO₄H groups.

18. (Currently Amended) The process according to claim 1, ~~any of claims 1 to 17~~, wherein the equivalent ratio of (meth)acrylate of formula (VIII) to hydroxyalkyl carbamate is from 0.01 to 7.

20. **(Currently Amended)** The process according to claim 1, ~~any of claims 1 to 19~~, wherein the equivalent ratio of polyol (d) to hydroxyalkyl carbamate is from 0 to 50.

22. Urethane(meth)acrylates responding to formula (XVII) and (XVIII)





wherein :

Z is the residue of the hydroxyalkyl carbamate of formula (I), (II), (III), (IV), (V), (VI) and/or (VII);

z is an integer from 1 to the number of OH groups present in the hydroxyalkyl carbamate of formula (I), (II), (III), (IV), (V), (VI) or (VII) such as defined in claim 1;

B is the residue of the polyol as defined in claim 16 ;

R^{30'} represents an alkyl, which may contain from 1 to 10 ether bridges group, from 1 to 10 -O-CO-O- bridges and/or from 1 to 10 -O-CO- bridges

R²⁹ and t are such as defined in claim 1 ;

Y is $\text{---R}^{35}\text{---}\overset{\text{O}}{\parallel}{\text{C}}\text{---}$ wherein R³⁵ is defined in claim 1 ;

and y is 0 or 1.

23.(Original) Urethane(meth)acrylates according to claim 22, wherein Z is the residue of hydroxyalkylcarbamates of formula (I), (II), (III), (IV), (V), (VI) and/or (VII) wherein R⁴, at least one of R⁵ and R⁶, at least one of R¹², R¹³ and R¹⁴, and at least one of R¹⁵ and R¹⁶ is different from hydrogen.

24.(Original) Urethane(meth)acrylates according to claim 22, wherein Z is the residue of hydroxyalkylcarbamates of formula (II) wherein R⁷ is ethylene and R⁵ and R⁶ together are ethylene.

25.(Original) Urethane(meth)acrylates according to claim 22, wherein Z is the residue of hydroxyalkylcarbamates of formula (II) wherein R⁷ is trimethylene, 2,2-dimethylpropylene, 1-methyltrimethylene, 1,2,3-trimethyltetramethylene, 2-methyl-pentamethylene, 2,2,4-(or 2,4,4-)trimethylhexamethylene, metaxylylene, cyclohexyl-1,3-ene, cyclohexyl-1,4-ene, 1,4-bis(propoxyl-3-ene)butane, N,N-bis(trimethylene)methylamine, 3,6-dioxaoctylene, 3,8-dioxadodecylene, 4,7,10-trioxatridecylene, poly(oxytetramethylene), poly(oxypropylene) with 2 to 15 1,2-propylene oxide units, poly(oxypropylene-co-oxyethylene) with 2 to 15 propylene oxide and 2 to 15 ethylene oxide units.

26. ~~(Currently Amended) Use of urethane (meth)acrylates according to any of claims 21 to 25 in a radiation curable composition~~ Method of preparing a radiation curable composition which comprises employing the urethane (meth)acrylate of claim 1 therein.